

From glowbugs@theporch.com Tue Nov 5 09:45:23 1996  
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Date: Tue, 5 Nov 1996 09:40:35 -0600 (CST)  
Message-Id: <199611051540.JAA11473@uro.theporch.com>  
Errors-To: conard@tntech.campus.mci.net  
Reply-To: glowbugs@theporch.com  
Originator: glowbugs@theporch.com  
Sender: glowbugs@theporch.com  
Precedence: bulk  
From: glowbugs@theporch.com  
To: Multiple recipients of list <glowbugs@theporch.com>  
Subject: GLOWBUGS digest 342  
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas  
X-Comment: Please send list server requests to listproc@theporch.com  
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#### GLOWBUGS Digest 342

Topics covered in this issue include:

- 1) Re: What is a 10Y?  
by "Scott Alfter" <salfter@accessnv.com>
- 2) Re: What is a 10Y?  
by MICHAEL@ecs.umass.edu
- 3) Re: 3A4 Regen RX in Sep 1995 CQ  
by jefffd@coriolis.com (Jeff Duntemann)
- 4) Printed Circuits that Glow  
by jefffd@coriolis.com (Jeff Duntemann)
- 5) Another 10Y description  
by Paul Bernhardt <bern@ppdu.nrl.navy.mil>
- 6) 6BM8 tubes  
by kellymed@tmxbris.mhs.oz.au (Murray Kelly)
- 7) Re: Printed Circuits that Glow  
by lee@radioadv.com (Lee Richey)
- 8) Re: Printed Circuits that Glow  
by "Brian Carling" <bry@mail1.mnsinc.com>
- 9) Re Glowbugs admin ... please read  
by p.holtham@mailbox.uq.oz.au (Peter Holtham)
- 10) "The Ocean Hopper" Magazine  
by "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>
- 11) Reprint of '29 and '34 Handbook chapters  
by "Deane D McIntyre" <dmcintyr@acs.ucalgary.ca>
- 12) Re: Reprint of '29 and '34 Handbook chapters  
by mjsilva@ix.netcom.com (michael silva)

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Date: Mon, 4 Nov 1996 07:51:40 -0800  
From: "Scott Alfter" <salfter@accessnv.com>  
To: <glowbugs@theporch.com>  
Subject: Re: What is a 10Y?  
Message-ID: <199611041625.IAA17893@kitfox.anv.net>

On Sun, 3 Nov 1996, Gordon Gekko <gekko@nwlink.com> wrote:  
> I just found an old box of tubes from my childhood days, and amongst  
> the treasure trove of 6V6, 6AG7's and the like is a couple of  
> an 'antique' tubes labeled '10Y'. 4-pin base, and about the  
> size of the largest 6L6 package.

My '63 GE tube manual lists a type 10 tube as a filament-type power  
amplifier triode with the following specs:

service: class A amplifier  
pinout: filament on 1 and 4, grid on 3, plate on 2  
filament power: 7.5V, 1.25A  
max. B+: 425V  
max. plate dissipation: 12W  
power output: 1.6W  
load impedance: 10.2k-ohms  
grid bias: -40V

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Scott Alfter  
salfter@accessnv.com

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Date: Mon, 04 Nov 1996 10:52:11 -0500  
From: MICHAEL@ecs.umass.edu  
To: GLOWBUGS@THEPORCH.COM  
Subject: Re: What is a 10Y?  
Message-ID: <01IBG18M3JY0AM2L3N@ECS.UMASS.EDU>

Gordon Gekko <gekko@nwlink.com> asked:

>I just found an old box of tubes from my childhood days, and amongst  
>the treasure trove of 6V6, 6AG7's and the like is a couple of an  
>'antique' tubes labeled '10Y'. 4-pin base, and about the size of the  
>largest 6L6 package.  
>Does anyone know what this tube is and have any good GB ideas for it?

According to my notes, the 10Y is a type 10 with a low-loss base, which  
helps it perform better at higher frequencies. The 10 is 7.5 volt

filamentary power triode, used for audio and RF purposes - as a modulated oscillator and regenerative detector.

I'd be interested in any ideas GBs come up with for these, too. Take a chunk of current in the filament, tho.

John Michael                    michael@ecs.umass.edu

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Date: Mon, 4 Nov 1996 09:14:47 -0700  
From: jeffd@coriolis.com (Jeff Duntemann)  
To: k7yha@juno.com  
Cc: glowbugs@theporch.com  
Subject: Re: 3A4 Regen RX in Sep 1995 CQ  
Message-ID: <1.5.4.32.19961104091012.00f126bc@ntserver.coriolis.com>

>One final comment: The tuning is really NON-linear. 80 meters is fairly  
>easy to tune but 40 meters is quite tightly packed near the high end of the  
tuning range of the cap. I think what I will end up doing is re-designing  
the tank circuit to cover just 80 meters with a lot more bandspread  
>using a smaller cap along with a bandspread cap. I really don't know how  
>anyone can actually use this rig on 40 meters the way it performs built  
>according to the article. 80 meters might be OK but 40 is really pushing  
>the envelope of reality.

If at all possible, try to find a constant-wavelength or constant-frequency  
variable for the tuning cap, in case you're using a constant capacitance cap  
for tuning. (These are the caps having the rotor shaft offset from the  
center of the plates, so that the decrease in capacitance as the plates are  
de-meshed is rapid at first, and then tapers off to a slow rate as more and  
more of the rotor is removed from the stator.)

Every time I've used a constant-capacitance variable for main tuning I have  
nothing but trouble with "bunching" at one end of the cap's range.

Good luck and let us know if you have further success improving the circuit.  
It would still be worth sending a summary of your enhancements to QST for an  
article that recent, and maybe they'll publish it in "technical  
Correspondence". They may not publish it, but it can't hurt to try.

--73--

--Jeff Duntemann KG7JF  
Scottsdale, Arizona

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Date: Mon, 4 Nov 1996 11:00:39 -0700  
From: jeffd@coriolis.com (Jeff Duntemann)  
To: glowbugs@theporch.com  
Subject: Printed Circuits that Glow  
Message-ID: <1.5.4.32.19961104105604.009677c0@ntserver.coriolis.com>

Hi gang--

Just wanted to take the pulse here: What do y'awll think of tube circuits on PC boards?

I'm going to breadboard my "standard" 6AG7/6L6 transmitter shortly, and after that I had the notion of creating a printed circuit board for it. I've never done a transmitter on PC board before, but it was done a lot in commercial rigs at the end of the tube era. (I believe the Heath Single Banders were bottles-on-PC-board, in fact.) I'd love to see more clubs involve novices in the building of tube rigs for CW, and club projects these days are almost always PC board centered.

The sockets are available from AES and other places, because octal-based relays are used even today. Having a PC board would make it easier for beginners to assemble correctly, which is one of my main goals. I work with a place in Oregon that makes good-quality boards inexpensively, and maybe we could even prevail on one of the kit outfits to produce a kit. My vision is a circuit board the size of the chassis bottom plate, bolted to the inverted chassis with the traces on the underside to keep B+ out of the way. The bottom plate then becomes the front panel. Or, with some cleverness, I could mount the tuning caps inside the chassis and not bother with a separate front panel. I believe the Micamold transmitter was set up that way.

I've designed a lot of circuit boards and would like to try this.

So. Any comments? Objections? Suggestions?

--73--

--Jeff Duntemann KG7JF  
Scottsdale, Arizona

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Date: Mon, 4 Nov 1996 14:03:43 -0500 (EST)  
From: Paul Bernhardt <bern@ppdu.nrl.navy.mil>  
To: Gordon Gekko <gekko@nwl.link.com>

Cc: glow bugs <glowbugs@theporch.com>  
Subject: Another 10Y description  
Message-ID: <Pine.A32.3.91.961104135034.23446A-1000000@ppdu.nrl.navy.mil>

Gordon,

I hope you are not saturated with 10Y descriptions.

My RCA Transmitting Tube manual (Tech. Manual TT-5) states:

10Y Power Triode

Thoriated-tungsten-filament type used as rf power amplifier and oscillator. May be used with full input up to 8 Mc. Requires small four-contact socket and may be mounted in vertical position only, base down. ST-16 Outline.

Filament volts (ad/dc) 7.5. Filament current 1.25 Amperes.

Direct interelectrode capacitances:

grid to plate 7 uuf;

grid to filament 4 uuf;

plate to filament 3 uuf.

Maximum CCS ratings as RF POWER AMPLIFIER AND OSCILLATOR, CLASS C TELEGRAPHY:

DC plate volts, 450 MAX;

DC grid volts, -200 MAX;

DC plate milliamperes, 60 MAX;

DC grid milliamperes, 15 MAX;

Plate input, 27 MAX Watts;

Plate Dissipation, 15 MAX Watts.

Plate shows no color when tube is operated at maximum CCS ratings. The 10Y is a DISCONTINUED type listed for reference only. The 801A is a direct replacement for the 10Y.

Paul Bernhardt, KF4FOR

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Date: Mon, 04 Nov 96 18:18:35 AES  
From: kellymed@tmxbris.mhs.oz.au (Murray Kelly)  
To: glowbugs@theporch.com  
Subject: 6BM8 tubes  
Message-ID: <232@tmxbris.mhs.oz.au>

>From: lee@radioadv.com (Lee Richey)  
>Subject: 6BM8 transmitter and other stuff  
>Now I'm planning a little 10-15 watt input crystal rig. I hav a couple  
>6BM8's  
>in the junk box. Does anyone here know how well the 6BM8 works at RF?  
>It was specifically designed for audio I believe. Most audio tubes work  
>just  
>fine on RF, but a few do not because of internal lead length etc. Looks  
>like

>it would make a pretty nice little rig. I'm planning to have pretuned  
>pi-net  
>output so I can switch bands without putting up a carrier for tune-up.  
>(That's one nice thing the SS rigs have produced, lots less tuners-uppers)  
>  
>-73- -Lee- -WA3FIY-

I am also interested in using these tubes since I have a few 'pulls' from old TVs. Any progress reports would be appreciated here.

Murray Kelly vk4aok

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Date: Mon, 4 Nov 1996 16:01:05 -0500  
From: lee@radioadv.com (Lee Richey)  
To: <glowbugs@theporch.com>  
Subject: Re: Printed Circuits that Glow  
Message-ID: <19961104210158336.AAB142@lee.radioadv.com>

> Just wanted to take the pulse here: What do y'awll think of tube circuits on  
> PC boards?

I think it is fine. It's the soft glow, the odor of dust and bugs burning :-), the sense that this thing just sounds better than that solid state thingy that makes tube rigs more fun to use.

>My vision is  
> a circuit board the size of the chassis bottom plate, bolted to the inverted  
> chassis with the traces on the underside to keep B+ out of the way. The  
> bottom plate then becomes the front panel. Or, with some cleverness, I  
> could mount the tuning caps inside the chassis and not bother with a  
> separate front panel. I believe the Micamold transmitter was set up that way.  
>

This is almost exactly how I am doing the 6BM8 TX. I am using double sided unetched pc board material in the prototype. It makes a great ground plane and is relatively easy to work with. Your other point, keeping the B+ out of the way, is no small issue, especially if the item becomes a kit. Not too many of the newer hams have worked with high voltages and legal liability is an issue as well. The resulting design must be safe.

-Lee- -WA3FIY-

<http://www.radioadv.com>

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Date: Mon, 4 Nov 1996 13:53:33 +0000  
From: "Brian Carling" <bry@mail1.mnsinc.com>  
To: glowbugs@theporch.com  
Subject: Re: Printed Circuits that Glow  
Message-ID: <199611042151.QAA01061@user2.mnsinc.com>

HEY! It's a reply from AF4K!  
On 4 Nov 96, Jeff Duntemann wrote:

> Hi gang--  
>  
> Just wanted to take the pulse here: What do y'all think of tube  
> circuits on PC boards?

Jeff - the big problem I have seen with that is in the  
implementation.

If it is done right, there may be no problem, but I have worked on  
MANY pieces of equipment that the designers sought to marry  
tube technology with PC boards, and the usual problem was the  
mechanical strain exerted by HEAVY components on circuit boards that  
have delicate copper traces attached to them. The resultant flexing  
from the heavy parts is what will cause a problem, because those  
delicate traces get cracked or torn easily. They are essentially  
almost as weak as paper! The copper plating should be VERY thick  
if one is to succeed, and parts positioned so that tube sockets  
cannot rip away from their connections to the PC board.  
If I was going to do that (and I have considered it lately) - I would  
factor into the design, a means of restraint for the heavier caps,  
tubes and other pieces.

Axial lead capacitors are not good to use in high-vibration  
environments to begin with, and I can't imagine putting those long,  
heavy radial lead caps on a PC board either. I'd mount them somewhere  
else, firmly secured to the chassis some way, either with FP mounting  
or with the black plastic clips.

Happy building!

\*\*\*\*\*  
\*\*\* 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA \*  
\*\* E-mail to: bry@mnsinc.com \*

\*\*\* See the great ham radio resources at: \*  
\*\* <http://www.mnsinc.com/bry/> \*  
\*\*\*\*\*

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Date: Tue, 5 Nov 1996 13:22:18 +1000  
From: p.holtham@mailbox.uq.oz.au (Peter Holtham)  
To: glowbugs@theporch.com  
Subject: Re Glowbugs admin ... please read  
Message-ID: <v01540b01aea45dd476c9@[130.102.44.39]>

In response to an earlier post, I am just one of the lurkers on the Glowbugs net, reading all the posts with interest. Keep up the good work.

I have just been leafing through the latest edition of the 1996 catalogue of RS Components. RS are an Australian offshoot of the British company Radiospares (I think they also trade as RS components). The catalogue is very big with lots of new ics and other bits and pieces every few months, the latest and greatest in silicon etc etc. Right in the middle of the semiconductors section is a NEW LINE - thermionic valves (tubes). They can supply 12AT7, KT88, 6L6GC and about 10 other types, some have been 'specially tested' to meet the needs of 'audiophiles'. What the testing involves is not stated although it does involve an oscilloscope. The same outfit also supplies chassis punches in a range of size that someone was looking for recently. I don't know whether they have a US offshoot, but suspect not. You can't keep those glowbugs down!

73,

Peter VK4C0Z

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Date: Mon, 4 Nov 1996 22:01:48 -0700 (MST)  
From: "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>  
To: Glowbugs <glowbugs@theporch.com>  
Subject: "The Ocean Hopper" Magazine  
Message-ID: <Pine.SV4.3.91.961104215536.7747A-100000@mesa5.mesa.colorado.edu>

Several years ago, Bill Albrant published "The Ocean Hopper" magazine. Copies are no longer available from Bill.

I would like to borrow and photocopy the issues of that magazine from anyone who has them. I will take VERY GOOD care of them and return them promptly after photocopying. I also will pay postage costs both ways and



provide any other incentive an owner of these magazines might request.

Thanks.

Jim Rybak W0KSD

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Date: Mon, 4 Nov 1996 22:44:56 -0700  
From: "Deane D McIntyre" <dmcintyr@acs.ucalgary.ca>  
To: glowbugs@theporch.com  
Subject: Reprint of '29 and '34 Handbook chapters  
Message-ID: <9611050544.ZZ538649@ds1.acs.ucalgary.ca>

Gang:

Got my 1997 Antique Electronic Supply Catalog (postmarked Amsterdam, the Netherlands for some strange reason) in the mail today. One new item that caught my eye as being of interest to Glowbuggers is the following book:

Those Great Old Handbook Receivers. Chapters from the 1929 and 1934 ARRL Radio Amateur's Handbook.

"Chapters deal with detailed receiver theory, construction techniques and power supply secrets from the 1929 and 1934 editions of ARRL Handbook"

158 pages. 0.8 lb. B-741.....\$8.95

I have never heard of this book, but it sure sounds interesting for people like me without pre-war Handbooks and QST's. Must be a few good regen circuits I would think using UY-227's and other "new" tubes....too bad they don't include the transmitter chapters as well.

Incidentally in the catalog 6T9's are still \$2.30 but 45's are now \$80.00 new, \$37.50 for used ST and \$67.50 for used globe type. 50's are \$140.00 for used, call for new.....the new 12L6GT's at \$1.60 are closer to my price range me thinks for glowbugging.....

I have no correction with AES (except as a customer...)

73, Deane D McIntyre VE6BP0  
dmcintyr@acs.ucalgary.ca

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Date: Tue, 5 Nov 1996 06:48:57 -0800  
From: mjsilva@ix.netcom.com (michael silva)  
To: glowbugs@theporch.com  
Subject: Re: Reprint of '29 and '34 Handbook chapters  
Message-ID: <199611051448.GAA29452@dfw-ix7.ix.netcom.com>

>Those Great Old Handbook Receivers. Chapters from the 1929 and 1934  
>ARRL Radio Amateur's Handbook.

>I have never heard of this book, but it sure sounds interesting  
>for people like me without pre-war Handbooks and QST's. Must  
>be a few good regen circuits I would think using UY-227's and other  
>"new" tubes....

I picked up this book a few months ago from Lindsay. It's definitely  
good reading, with both regens and superhets.

>Incidentally in the catalog 6T9's are still \$2.30 but 45's are now  
>\$80.00 new, \$37.50 for used ST and \$67.50 for used globe type.  
>50's are \$140.00 for used, call for new.....the new 12L6GT's at  
>\$1.60 are closer to my price range me thinks for glowbugging.....

The 12L6 holds a special place (!?) in my personal glowbug revival.  
Soon after I got my first AES catalog I saw them and noticed how cheap  
they were. Well, figures I, 6L6s may cost a bunch, but I can buy some  
real cheap 12L6s and a 12v filament transformer and be way ahead of the  
game, so that's what I did. Boy was I surprised when they showed up!  
To those of you who don't know the punchline, the 12L6 is *\*not\** a 12v  
6L6, but a 10 watt output tube in the 25L6/50L6 family. It's 6v  
equivalent is actually the 6W6/6DG6. And I thought I was being so  
clever...

73,  
Mike, KK6GM

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End of GLOWBUGS Digest 342  
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